1034123-000218 SEQUENCE LISTING

```
<110> Gallo, Richard
        Murakami, Masamoto
<120>
       HUMAN CATHELICIDIN ANTIMICROBIAL PEPTIDES
<130> 1034123-000218
<140> Unassigned
<141>
        2006-04-11
        US 60/512,953
2003-10-21
<150>
<151>
<150>
         PCT/US2004/034911
        2004-10-20
<151>
<160>
        34
<170>
        PatentIn version 3.3
<210>
<211>
        11
<212>
        PRT
<213>
        Homo sapiens
<220>
<221>
<222>
        X
(1)..(2)
<223>
        K or R
<220>
<221>
<222>
        X
(3)..(3)
I or K
<223>
<220>
<221>
<222>
<223>
       X
(4)..(4)
V or G
<220>
<221>
<222>
        X
(5)..(5)
<223>
        QorR
<220>
<221>
<222>
        X
(6)..(6)
K or R
<223>
<220>
<221>
<222>
<223>
        (7)..(7)
        any amino acid
<220>
<221> X
<222> (8)..(8)
<223> L or F
```

```
<220>
<221>
       (9)..(11)
<222>
      any amino acid
<223>
<400> 1
<210>
<211>
      11
<212>
       PRT
      Homo sapiens
<400>
Lys Arg Ile Val Gln Arg Ile Lys Asp Val Phe
<210>
<211>
       8
<212>
      PRT
<213>
      Homo sapiens
<400> 3
Arg Lys Ser Lys Glu Lys Ile Gly
<210>
<211>
      8
<212>
      PRT
<213>
      Homo sapiens
<400>
Lys Ser Lys Glu Lys Ile Gly Lys
1 5
       5
739
<210>
<211>
<212>
       DNA
<213>
      Homo sapiens
<400>
taaagcaaac cccagcccac accctggcag gcagccaggg atgggtggat caggaaggct
                                                                     60
cctggttggg cttttgcatc aggctcaggc tgggcataaa ggaggctcct gtgggctaga
                                                                    120
gggaggcaga catggggacc atgaagaccc aaagggatgg ccactccctg gggcggtggt
                                                                    180
cactggtgct cctgctgctg ggcctggtga tgcctctggc catcattgcc caggtcctca
                                                                    240
gctacaagga agctgtgctt cgtgctatag atggcatcaa ccagcggtcc tcggatgcta
                                                                    300
acctctaccg cctcctggac ctggacccca ggcccacgat ggatggggac ccagacacgc
                                                                    360
caaagcctgt gagcttcaca gtgaaggaga cagtgtgccc caggacgaca cagcagtcac
                                                                    420
                                       Page 2
```

cagaggattg	tgacttcaag	aaggacgggc	tggtgaagcg	gtgtatgggg	acagtgaccc	480
tcaaccaggc	caggggctcc	tttgacatca	gttgtgataa	ggataacaag	agatttgccc	540
tgctgggtga	tttcttccgg	aaatctaaag	agaagattgg	caaagagttt	aaaagaattg	600
tccagagaat	caaggatttt	ttgcggaatc	ttgtacccag	gacagagtcc	tagtgtgtgc	660
cctaccctgg	ctcaggcttc	tgggctctga	gaaataaact	atgagagcaa	tttcaaaaaa	720
aaaaaaaaa	aaaaaaaa					739

<210> 6

<211> 170 <212> PRT

<213> Homo sapiens

<400> 6

Met Lys Thr Gln Arg Asn Gly His Ser Leu Gly Arg Trp Ser Leu Val 1 5 10 15

Leu Leu Leu Gly Leu Val Met Pro Leu Ala Ile Ile Ala Gln Val 20 25 30

Leu Ser Tyr Lys Glu Ala Val Leu Arg Ala Ile Asp Gly Ile Asn Gln 35 40 45

Arg Ser Ser Asp Ala Asn Leu Tyr Arg Leu Leu Asp Leu Asp Pro Arg 50 55 60

Pro Thr Met Asp Gly Asp Pro Asp Thr Pro Lys Pro Val Ser Phe Thr 65 70 75 80

Val Lys Glu Thr Val Cys Pro Arg Thr Thr Gln Gln Ser Pro Glu Asp 85 90 95

Cys Asp Phe Lys Lys Asp Gly Leu Val Lys Arg Cys Met Gly Thr Val 100 105 110

Thr Leu Asn Gln Ala Arg Gly Ser Phe Asp Ile Ser Cys Asp Lys Asp 115 120 125

Asn Lys Arg Phe Ala Leu Leu Gly Asp Phe Phe Arg Lys Ser Lys Glu 130 135 140

Lys Ile Gly Lys Glu Phe Lys Arg Ile Val Gln Arg Ile Asp Asp Phe 145 150 155 160

Leu Arg Asn Leu Val Pro Arg Thr Glu Ser 165 170

<210 <211 <212 <213	.> !>	7 519 DNA Homo	sapi	iens											
<pre><400> 7 atgcagttcc agagggacgt cccctcctg tggctgtggc ggtcactatc actgctgctg</pre>															
ctac	tgg	gcc 1	tgggg	gttct	c co	agad	cccc	ago	ctaca	aggg	atgo	tgt	gct	cgag	ctgtg
gato	act	tca a	accag	gcagt	c co	taga	acaco	aat	ctct	tacc	gtct	cct	gga (cctg	atcct
gago	ccc	aag g	gggad	gago	ga to	caga	atacı	cco	aagt	tctg	tgag	gtto	cg a	agtga	aggag
acto	tat	gtg g	gcaag	ggcag	ga go	ggca	agcta	a cct	gage	caat	gtg	ctt	caa 🤅	ggaad	agggg
gtggtgaagc agtgtatggg ggcagtcacc ctgaacccgg ccgctgattc ttttgacatc															
agctgtaacg agcctggtgc acagcccttt cggttcaaga aaatttcccg gctggctgga															
ctto	tcc	gca a	aaggt	tgggg	ga ga	agat	tggt	gaa	aaago	tta	agaa	aatı	tgg (ccaga	aaatt
cttctccgca aaggtgggga gaagattggt gaaaagctta agaaaattgg ccagaaaatt aagaattttt ttcagaaact tgtccctcag ccagagtag															
<210> 8 <211> 173 <212> PRT <213> murine															
<400> 8															
Met 1	Gln	Phe	Gln	Arg 5	Asp	Val	Pro	Ser	Leu 10	Тгр	Leu	тгр	Arg	Ser 15	Leu
ser	Leu	Leu	Leu 20	Leu	Leu	Gly	Leu	G]y 25	Phe	Ser	Gln	Thr	Pro 30	Ser	Tyr
Arg	Asp	Аlа 35	val	Leu	Arg	Ala	∨a1 40	Asp	Asp	Phe	Asn	G]n 45	Gln	Ser	Leu
Asp	Thr 50	Asn	Leu	Tyr	Arg	Leu 55	Leu	Asp	Leu	Asp	Pro 60	Glu	Pro	Gln	Gly
Asp 65	Glu	Asp	Pro	Asp	Thr 70	Pro	Lys	Ser	٧a٦	Arg 75	Phe	Arg	٧a٦	Lys	Glu 80
Thr	val	Cys	Gly	Lys 85	Ala	Glu	Arg	Gln	Leu 90	Pro	Glu	Gln	Cys	Ala 95	Phe
Lys	Glu	Gln	Gly 100	val	۷al	Lys	Gln	Cys 105	Met	Gly	Ala	٧al	Thr 110	Leu	Asn
Pro	Ala	Аlа	Asp	Ser	Phe	Asp	Ile	Ser		Asn Page		Pro	Gly	Ala	Gln

115

Pro Phe Arg Phe Lys Lys Ile Ser Arg Leu Ala Gly Leu Leu Arg Lys 130 135

120

Gly Gly Glu Lys Ile Gly Glu Lys Leu Lys Lys Ile Gly Gln Lys Ile 145 150 155 160

Lys Asn Phe Phe Gln Lys Leu Val Pro Gln Pro Glu Gln 165

<210> 172

<211> <212>

canine

<400>

Met Glu Thr Gln Lys Asp Ser Pro Ser Leu Gly Arg Trp Ser Leu Leu 1 5 10 15

Leu Leu Leu Gly Leu Val Ile Thr Pro Ala Ala Ser Arg Ala Leu 20 25 30

Ser Tyr Arg Glu Ala Val Leu Arg Ala Val Asn Gly Phe Asn Gln Arg

Ser Ser Glu Glu Asn Leu Tyr Arg Leu Leu Gln Leu Asn Ser Gln Pro 50 60

Lys Gly Asp Glu Asp Pro Asn Ile Pro Lys Pro Val Ser Phe Thr Val 65 70 75 80

Lys Glu Thr Val Cys Pro Lys Thr Thr Gln Gln Pro Leu Glu Gln Cys
85 90 95

Gly Phe Lys Asp Asn Gly Leu Val Lys Gln Cys Glu Gly Thr Val Ile $100 \hspace{1cm} 105 \hspace{1cm} 110$

Leu Asp Glu Asp Thr Gly Tyr Phe Asp Leu Asn Cys Asp Ser Ile Leu 115 120 125

Gln Val Lys Lys Ile Asp Arg Leu Lys Glu Leu Ile Thr Thr Gly Ala 130 140

Gln Lys Ile Gly Lys Lys Ile Arg Arg Ile Gly Gln Arg Ile Lys Asp 145 150 155 160

Phe Leu Lys Asn Leu Gln Pro Arg Glu Glu Lys Ser Page 5

<210> 10 172 <211>

<212> **PRT**

porcine

<400> 10

Met Glu Thr Gln Arg Ala Ser Leu Cys Leu Gly Arg Trp Ser Leu Trp
1 10 15

Leu Leu Leu Ala Leu Val Val Pro Ser Ala Ser Ala Gln Ala Leu 20 25 30

Ser Tyr Arg Glu Ala Val Leu Arg Ala Val Asp Arg Leu Asn Glu Gln 35 40 45

Ser Ser Glu Ala Asn Leu Tyr Arg Leu Leu Glu Leu Asp Gln Pro Pro 50 60

Lys Ala Asp Glu Asp Pro Gly Thr Pro Lys Pro Val Ser Phe Thr Val 65 70 75 80

Lys Glu Thr Val Cys Pro Arg Pro Thr Arg Gln Pro Pro Glu Leu Cys
85
90
95

Asp Phe Lys Glu Asn Gly Arg Val Lys Gln Cys Val Gly Thr Val Thr 100 105 110

Leu Asn Pro Ser Ile His Ser Leu Asp Ile Ser Cys Asn Glu Ile Gln
115 120 125

Ser Val Arg Arg Pro Arg Pro Pro Tyr Leu Pro Arg Pro Arg Pro 130 140

Pro Pro Phe Phe Pro Pro Arg Leu Pro Pro Arg Ile Pro Pro Gly Phe 145 150 155 160

Pro Pro Arg Phe Pro Pro Arg Phe Pro Gly Lys Arg 165 170

<210> <211>

11 176 <212> **PRT**

<213> goat

<400> 11

Met Glu Thr Gln Gly Ala Ser Leu Ser Leu Gly Arg Trp Ser Leu Trp 10 15Page 6

Leu Leu Leu Gly Leu Val Val Pro Leu Ala Ser Ala Gln Ala Leu 20 25 30 Ser Tyr Arg Glu Ala Val Leu Arg Ala Val Gly Gln Leu Asn Glu Arg 35 40 45 Ser Ser Glu Ala Asn Leu Tyr Arg Leu Leu Glu Leu Asp Pro Ala Pro 50 55 60 Asn Asp Glu Val Asp Pro Gly Thr Arg Lys Pro Val Ser Phe Thr Val 65 70 75 80 Lys Glu Thr Val Cys Pro Arg Thr Thr Gln Gln Pro Pro Glu Glu Cys 85 90 95 Asp Phe Lys Glu Asn Gly Leu Val Lys Gln Cys Val Gly Thr Val Thr 100 105 110 Leu Asp Pro Ser Asn Asp Gln Phe Asp Ile Asn Cys Asn Glu Leu Gln 115 120 125 Ser Val Arg Phe Arg Pro Pro Ile Arg Arg Pro Pro Ile Arg Pro Pro 130 135 140

Phe Asn Pro Pro Phe Arg Pro Pro Val Arg Pro Pro Phe Arg Pro Pro 145 150 155 160

Phe Arg Pro Pro Phe Arg Pro Pro Ile Gly Pro Phe Pro Gly Arg Arg 165 170 175

```
<210>
        12
```

<211> <212>

PRT

Unknown

<220>

linker moity <223>

<400> 12

¹³

<210><211><212> 16

PRT

Homo sapiens

<400> 13

```
1034123-000218
Lys Arg Ile Val Gln Arg Ile Lys Asp Phe Leu Arg Asn Leu Val Pro
1 10 15
<210>
<211>
        14
17
<212>
<213>
        PRT
       Homo sapiens
<400> 14
Lys Arg Ile Val Gln Arg Ile Lys Asp Phe Leu Arg Asn Leu Val Pro 10 \ 15
Arg
<210>
<211>
<212>
        15
        18
      PRT
      Homo sapiens
<400>
Lys Arg Ile Val Gln Arg Ile Lys Asp Phe Leu Arg Asn Leu Val Pro 10 15
Arg Thr
<210>
        16
<211>
        19
<212>
       PRT
<213>
       Homo sapiens
<400> 16
Lys Arg Ile Val Gln Arg Ile Lys Asp Phe Leu Arg Asn Leu Val Pro
1 10 15
Arg Thr Glu
        17
<210>
<211>
<212>
        20
        PRT
<213>
       Homo sapiens
<400> 17
Lys Arg Ile Val Gln Arg Ile Lys Asp Phe Leu Arg Asn Leu Val Pro 1 10 15
Arg Thr Glu Ser
20
```

```
18
26
<210>
<211>
      PRT
      Homo sapiens
<400>
       18
Lys Ser Lys Glu Lys Ile Gly Lys Glu Phe Lys Arg Ile Val Gln Arg
1 10 15
Ile Lys Asp Phe Leu Arg Asn Leu Val Pro
<210>
       19
<211>
<212>
       27
       PRT
<213>
      Homo sapiens
<400> 19
Lys Ser Lys Glu Lys Ile Gly Lys Glu Phe Lys Arg Ile Val Gln Arg
1 10 15
Ile Lys Asp Phe Leu Arg Asn Leu Val Pro Arg
20 25
<210>
        20
<211>
       28
<212>
<213>
       PRT
       Homo sapiens
<400> 20
Lys Ser Lys Glu Lys Ile Gly Lys Glu Phe Lys Arg Ile Val Gln Arg
1 10 15
Ile Lys Asp Phe Leu Arg Asn Leu Val Pro Arg Thr 20 25
<210> 21
<211> 29
<212> PR
      PRT
<213> Homo sapiens
<400> 21
Lys Ser Lys Glu Lys Ile Gly Lys Glu Phe Lys Arg Ile Val Gln Arg
1 10 15
Ile Lys Asp Phe Leu Arg Asn Leu Val Pro Arg Thr Glu
20 25
<210> 22
<211> 30
```

Page 9

```
1034123-000218
<212> PRT
<213>
       Homo sapiens
<400> 22
Lys Ser Lys Glu Lys Ile Gly Lys Glu Phe Lys Arg Ile Val Gln Arg
1 10 15
Ile Lys Asp Phe Leu Arg Asn Leu Val Pro Arg Thr Glu Ser 20 25 30
<210>
       23
       27
<211>
<212>
<213>
       PRT
      Homo sapiens
<400> 23
Arg Lys Ser Lys Glu Lys Ile Gly Lys Glu Phe Lys Arg Ile Val Glu 10 15
Arg Ile Lys Asp Phe Leu Arg Asn Leu Val Pro
<210> 24
<211> 28
<212> PRT
<213> Homo sapiens
<400> 24
Arg Lys Ser Lys Glu Lys Ile Gly Lys Glu Phe Lys Arg Ile Val Gln 10 	 10
Arg Ile Lys Asp Phe Leu Arg Asn Leu Val Pro Arg 20 25
       25
29
<210>
<211>
<212>
       PRT
      Homo sapiens
<213>
<400> 25
Arg Lys Ser Lys Glu Lys Ile Gly Lys Glu Phe Lys Arg Ile Val Gln
1 10 15
Arg Ile Lys Asp Phe Leu Arg Asn Leu Val Pro Arg Thr 20 25
<210>
        26
```

<211>

<212>

<213>

30

PRT

Homo sapiens

Page 10

```
<400> 26
```

Arg Lys Ser Lys Glu Lys Ile Gly Lys Glu Phe Lys Arg Ile Val Glu 10 15

Arg Ile Lys Asp Phe Leu Arg Asn Leu Val Pro Arg Thr Glu 20 25 30

<210> <211> <212> 27 31

PRT

Homo sapiens

<400> 27

Arg Lys Ser Lys Glu Lys Ile Gly Lys Glu Phe Lys Arg Ile Val Gln 10 15

Arg Ile Lys Asp Phe Leu Arg Asn Leu Val Pro Arg Thr Glu Ser

28 <210>

<211> <212> 36

PRT <213> Homo sapiens

<400> 28

Leu Gly Asp Phe Phe Arg Lys Ser Lys Glu Lys Ile Gly Lys Glu Phe 1 10 15

Lys Arg Ile Val Gln Arg Ile Lys Asp Phe Leu Arg Asn Leu Val Pro 20 25 30

Arg Thr Glu Ser

<210> 29

<211> 22

<212> PRT Unknown

<220>

<223> linker moiety

<400>

Gly Gly Gly Gly Gly Ser Met Phe Gly Gly Ala Lys Lys Arg Ser 1 10 15

Gly Gly Gly Gly Gly 20

<210> 30

```
1034123-000218
```

```
<211>
        11
       PRT
Homo sapiens
<212>
<400>
        30
Ser Ser Leu Leu Glu Lys Gly Leu Asp Gly Ala
1 5 10
<210> 31
<211> 5
<212> PRT
      Homo sapiens
<400> 31
Ser Ser Leu Leu Glu
1 5
<210> 32
<211> 37
      PRT
Homo sapiens
<212>
<400> 32
Leu Leu Gly Asp Phe Phe Arg Lys Ser Lys Glu Lys Ile Gly Lys Glu
15
Phe Lys Arg Ile Val Gln Arg Ile Lys Asp Phe Leu Arg Asn Leu Val 20 25 30
Pro Arg Thr Glu Ser
35
<210>
        33
<211>
       47
<212>
<213>
        PRT
       Homo sapiens
<400> 33
Ser Ser Leu Leu Glu Lys Gly Leu Asp Gly Ala Lys Lys Ala Val Gly
10 15
Gly Leu Gly Lys Leu Gly Lys Asp Ala Val Glu Asp Leu Glu Ser Val
20 25 30
Gly Lys Gly Ala Val His Asp Val Lys Asp Val Leu Asp Ser Val
35 40 45
<210>
        34
<211>
<212>
        129
       PRT
<213>
       Unknown
```

<220> <223> concensus amino acid sequence

<400> 34

Met Glu Thr Gln Arg Ser Ser Leu Gly Arg Trp Ser Leu Leu Leu 10 15 15

Leu Gly Leu Val Pro Ala Ile Ala Gln Ala Leu Ser Tyr Arg Glu Ala 20 25 30

Val Leu Arg Ala Val Asp Asn Gln Arg Ser Ser Glu Ala Asn Leu Tyr 35 40 45

Arg Leu Leu Asp Pro Pro Asp Glu Asp Pro Thr Pro Lys Pro Val 50 60

Ser Phe Thr Val Lys Glu Thr Val Cys Pro Arg Thr Thr Gln Gln Pro 65 70 75 80

Pro Glu Cys Asp Phe Lys Glu Asn Gly Leu Val Lys Gln Cys Gly Thr 85 90 95

Val Thr Leu Asn Pro Ser Phe Asp Ile Ser Cys Asn Glu Pro Gly Gln 100 105 110

Val Arg Arg Lys Ile Gly Arg Ile Gln Arg Ile Lys Phe Leu Pro Arg 115 120 125

Arg